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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,090	02/25/2000	Pulin R Patel	067191.0113	7780

7590 06/20/2003  
Baker Botts LLP  
2001 Ross Avenue  
Dallas, TX 75201-2980

EXAMINER

FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/513,090

Applicant(s)

PATEL ET AL.

Examiner

Derrick W. Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 37-46 and 85-107 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-46 and 85-107 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4,5,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: please update related data section on page one of the specification.

Appropriate correction is required.

### *Election/Restrictions*

2. During a telephone conversation with Terry Stalford on 6/03 a provisional election was made without traverse to prosecute the invention of group II, **claims 37-46, 85-94 and 95-107**. Affirmation of this election must be made by applicant in replying to this Office action. Group I, **Claims 1-26 and 47-84** are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Group I is drawn to a system comprising both wireless and wireline nodes where communication is accomplished through a wireline node. Group I is classified in at least 370, subclass 352. Group II, claims 37-46, 85-94, and 95-107 are drawn to a system comprising only wireless nodes (e.g., see claims 42, 45, 92, and 93 were neighboring nodes are wireless nodes). Group II is classified in at least class 370, subclass 310. Examiner notes Group II has separate utility since the wireless nodes operate independently of a wireline node.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. **Claims 37-40, 44-46, 85-88, 92-94, and 95-102** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,949,760 to *Stevens et al.* ("*Stevens*").

As to **claims 37, 85-88 and 95**, the claim in general recites a state-driven process comprising a start-up state 220, a learning state 222, and an operational state 224 as supported by applicant's figure 7. The states in the claims are either distinguished by the action verb "transitioning" or by reciting the actual state.

Examiner notes the general state-driven process of a start-up state 220, a learning state 222, and an operational state 224 are taught in general by *Stevens* and what is well known in the art prior to applicant's invention. Examiner notes that all of the limitations within each state are either inherently taught or obvious based on what is known in the art and the teachings of *Stevens*. Examiner notes the start-up state 220 comprises the limitations "activating the wireless node in a start-up state"; "automatically determining in the start-up state a plurality of operating parameters for the wireless node"; "configuring the wireless node based on the operating parameters"; and "activating a radio frequency (RF) system for the wireless node" as part of a start-up state 220.

Examiner notes these limitations are inherently taught or obvious since a skilled artisan would recognize that in order to obtain information from neighboring nodes, a node must be initially configured with a plurality of operating parameters; these parameters assisting the node to communication over an RF spectrum. Next, a learning state 222 consists of the limitations "transitioning the wireless node to a learning state"; "collecting operational data in the learning state and modifying the operational parameters based on the operational data"; and "reconfiguring the wireless nodes based on the modified

operational parameters”. *Stevens* discloses a learning state in steps 32, 34, and 38 where in general the configuration in the start-up state is “refined” (i.e., an optimization step 34 operates on the data collected in step 32 to optimize simultaneous transmission throughput within the neighborhood based upon a desired performance criterion stored at step 36 [column 3, lines 6-9]). In a learning state, each node 20 transmits self-information (i.e., operating parameters) including identification information, traffic load, and available power [column 2, lines 51-59]. Specifically, data is collected at step 32 (i.e., the operating parameters are modified) and the wireless node is reconfigured based on the data collected as shown in step 42 [column 3, lines 25-26]. Finally, an operational state 224 comprises the final limitation of “transitioning the wireless node to a normal operational state in response to determining the operational data is within predefined parameters”. *Stevens* discloses an operational state in steps 40, 42, and 44. Examiner notes that the “predefined parameters” are part of the stored performance criterion in step 36.

As to **claims 38 and 86**, *Stevens* discloses a step of negotiation in step 40 shown in figure 2.

As to **claims 39 and 87**, as link assignments are allocated between nodes in a neighborhood based upon the desired performance criterion, a list of neighboring nodes in the learning state based on the operational data and the operating parameters to account for the modified list are modified as part of the set of potential link assignments 38.

As to **claims 40 and 88**, see similar reasoning behind the rejection for claim 38.

As to **claims 44, 45, 92, and 93**, as each node 20 can route or switch, examiner notes that node 20 comprises of functionality indicative of a wireless router.

As to **claims 46 and 94**, see step 34 of figure 2 for *Stevens*.

As to **claims 96-102**, examiner notes that each node exchanges “self-information” which includes identification information (i.e., access technology), traffic load, available power (RF coverage parameters), potential destination (network configuration information), traffic quantities (control parameters, traffic priorities, and link quality (interference parameters) using a reasonable but broad interpretation of the claimed subject matter [column 2, lines 45-59].

5. **Claims 41, 42, 43, 89, 90, 91 and 43** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,949,760 to *Stevens et al.* (“*Stevens*”) in view of U.S. Patent No. 6,421,731 to *Ciotti, Jr. et al.* (“*Ciotti*”).

As to **claims 41, 42, 43, 89, 90, 91 and 43**, *Stevens* is silent or deficient to “transitioning back” to a known state in response to some action such as “determining the operational data is outside the predefined parameters”, “a change in neighboring wireless topology” and “accepting a modification in operating parameters requested by a neighboring node” (i.e., *Stevens* discloses in figure 2 assigning the link but not transitioning back to a known state). Examiner notes that it would have been obvious to a skilled artisan prior to applicant’s invention to transition back to a known state in response to an action for a wireless network in general. Support is provided in general by *Ciotti* using update messages from the network such as router updates. These update messages signify that an operational data is outside the predefined parameter, that a

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change in wireless topology has occurred, and that a modification in operating parameters has been accepted. As support, *Ciotti* discloses in figure 11 a updating a routing table (i.e., based on a routing update message the method is revisited as is known in the art). Thus *Ciotti* discloses motivation for transitioning back to a known state in general (in order to handle updating messages) such that a skilled artisan would be motivated to transition back to a known state if changes in general occur in the network. These changes including “determining the operational data is outside the predefined parameters”, “a change in neighboring wireless topology” and “accepting a modification in operating parameters requested by a neighboring node”.

As both reference disclose wireless networks in general, and more specifically wireless routing, examiner notes a motivation to combine the subject matter as a whole for both references.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-3900.


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Derrick W. Ferris  
Examiner  
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DWF   
June 17, 2003

  
MELVIN MARCELO  
PRIMARY EXAMINER